

JUDICIAL RETIREMENT SYSTEM OF TEXAS, PLAN 2
ANNUAL ACTUARIAL VALUATION – FUNDING
AS OF AUGUST 31, 2013



November 21, 2013

Board of Trustees
Employees Retirement System of Texas
200 East 18th Street
Austin, TX 78701

Re: Actuarial Valuation for Funding Purposes as of August 31, 2013

Members of the Board:

We certify that the information contained in this report is accurate and fairly presents the actuarial position of the Judicial Retirement System of Texas, Plan 2 (JRS-2) as of August 31, 2013. This report was prepared at the request of the Board and is intended for use by ERS staff and those designated or approved by the Board. This report may be provided to parties other than ERS only in its entirety and only with the permission of the Board.

Actuarial Valuation

The primary purposes of the actuarial valuation report are to determine the adequacy of the current State contribution rate, describe the current financial condition of JRS-2, analyze changes in the condition of JRS-2, and provide various summaries of the data.

It is important for the Board of Trustees to understand that the currently scheduled member and State contributions are not expected to accumulate sufficient assets in order to pay all of the currently scheduled benefits when due.

Plan Provisions

Our actuarial valuation as of August 31, 2013 reflects the benefit and contribution provisions set forth in Chapters 836 through 840 of the Texas Government Code. The impact of Senate Bill 1459 passed by the 83rd Legislature of the State of Texas was reflected in the actuarial valuation. The current plan provisions, including the provisions of this bill, are outlined in Appendix I of this report.

Actuarial Assumptions and Methods

The assumptions and methods applied in these actuarial valuations were adopted by the Board of Trustees on February 26, 2013 based on the experience investigation completed by Buck Consultants that covered the five-year period from September 1, 2006 through August 31, 2011. Additionally, the actuarial valuation as of August 31, 2013 also incorporates all known across-the-board pay increases budgeted by the State Legislature for the upcoming biennium. The current actuarial assumptions and methods are outlined in Appendix II of this report.

Data

The valuation was based upon information as of August 31, 2013, furnished by ERS staff, concerning system benefits, financial transactions, plan provisions and active members, terminated members, retirees and beneficiaries. We checked for internal and year-to-year consistency, but did not otherwise audit the data. We are not responsible for the accuracy or completeness of the information provided by ERS staff.

Certification

All of our work conforms with generally accepted actuarial principles and practices, and to the Actuarial Standards of Practice issued by the Actuarial Standards Board. In our opinion, our calculations also comply with the requirements of, where applicable, the Internal Revenue Code and ERISA.

The signing actuaries are independent of the plan sponsor. They are all Enrolled Actuaries, Fellows of the Society of Actuaries, and Members of the American Academy of Actuaries, and meet the Qualification Standards of the American Academy of Actuaries. Finally, each of the undersigned are experienced in performing valuations for large public retirement systems.

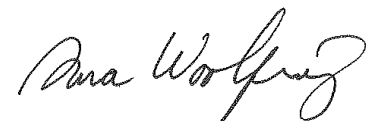
Respectfully submitted,
Gabriel, Roeder, Smith & Company



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SECTION A

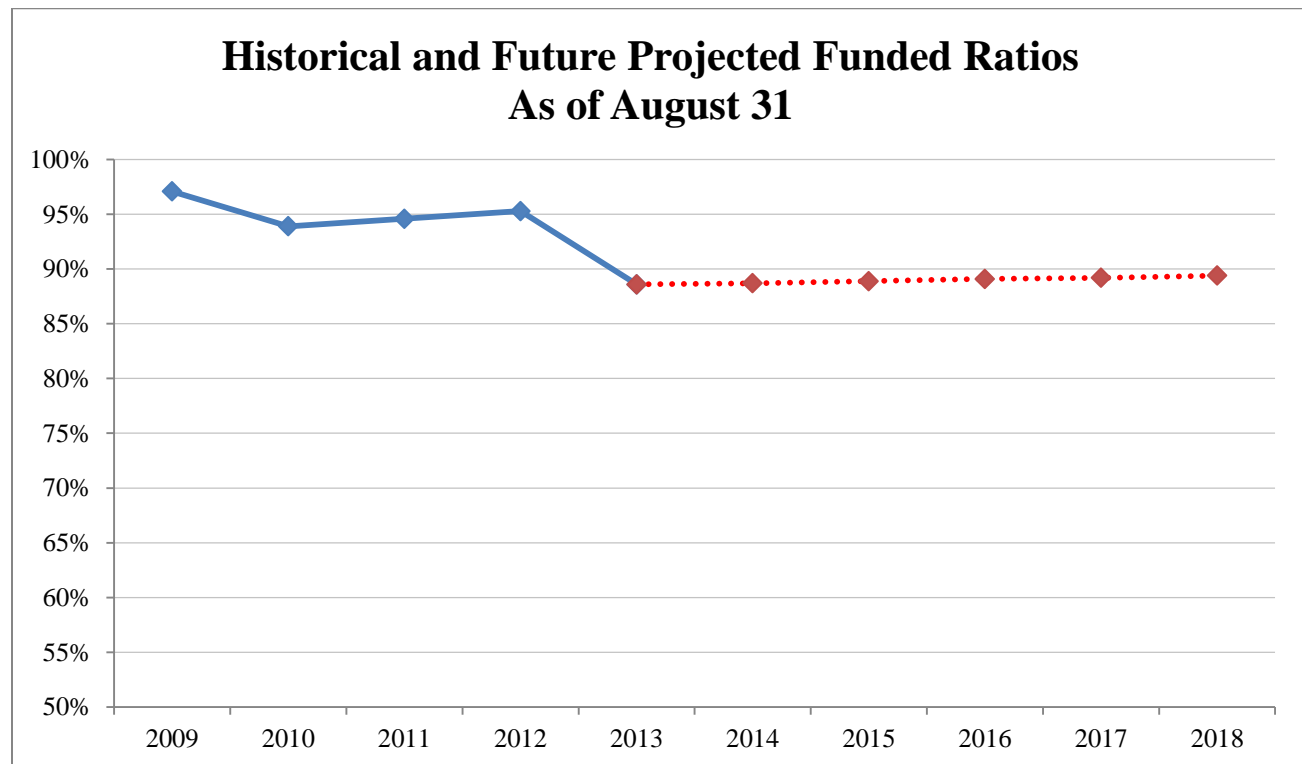
EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

Item	2013	2012
Membership		
• Number of		
- Active members	545	541
- Retirees and beneficiaries	254	215
- Inactive, vested	19	19
- Inactive, nonvested	133	124
- Total	951	899
• Valuation Payroll	\$ 77,853,500	\$ 68,777,500
Statutory contribution rates	FY 2014	FY 2013
• Members	6.57%	5.98%
• State	15.663%	6.00%
Actuarially Sound Rate (funds normal cost and amortizes unfunded accrued liability over 31 years, per Section 840.106 of the Texas Government Code)	24.08%	21.52%
Assets		
• Market value	\$ 318,384,742	\$ 295,912,873
• Actuarial value	\$ 318,025,658	\$ 300,433,111
• Return on market value*	10.1%	8.2%
• Return on actuarial value	8.0%	7.6%
Actuarial Information		
• Normal cost %	20.96%	20.25%
• Total normal cost	\$ 16,318,094	\$ 13,927,445
• Actuarial accrued liability	\$ 359,058,635	\$ 315,199,152
• Unfunded actuarial accrued liability (UAAL)	\$ 41,032,977	\$ 14,766,041
• Funded ratio	88.6%	95.3%
• Funding period (years)	Never	Never

* Provided by ERS Master Trust Custodian

The following chart illustrates the recent history and outlook of the funded status of JRS-2 over the next five years:



August 31,	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Funded Ratio	97.1%	93.9%	94.6%	95.3%	88.6%	88.7%	88.9%	89.1%	89.2%	89.4%
UAAL (in millions)	\$7.3	\$17.2	\$16.2	\$14.8	\$41.0	\$42.9	\$44.7	\$46.6	\$48.2	\$50.0
ASC	20.94%	21.68%	21.76%	21.52%	24.08%	24.26%	24.29%	24.30%	24.32%	24.31%

The projections beyond 2013 are based on the same assumptions, methods and provisions used for the August 31, 2013 valuation, which include the impact of SB 1459, known across-the-board pay increases budgeted by the State Legislature, and the assumptions adopted by the Board in February 2013. Additionally, the market value of assets is expected to earn 8% per year.

It is important for the Board of Trustees to understand that the currently scheduled member and State contributions are not expected to accumulate sufficient assets in order to pay all of the currently scheduled benefits when due. Even though the projected funded ratio remains fairly level over the short term, the UAAL will continue to grow based on current expectations and assumptions. The actual exhaustion date is projected to be over 100 years away, but the current level of benefits and contributions are not sustainable.

SECTION B
DISCUSSION

DISCUSSION

Introduction

The results of the August 31, 2013 actuarial valuation of the Judicial Retirement System of Texas, Plan 2 (JRS-2) are presented in this report.

The primary purposes of this actuarial valuation report are to determine the adequacy of the current State contribution rate, describe the current financial condition of JRS-2, analyze the changes in the condition of JRS-2, and provide various summaries of the data.

The total contribution rate for the current fiscal year exceeds the normal cost by 1.273% of payroll, but it is not sufficient to amortize the UAAL over a finite period of time. As a result, the UAAL is expected to grow indefinitely and the funding objective is not currently being realized. Based on current expectations and assumptions, JRS-2 is projected to remain solvent for at least 100 years, but the funding is projected to eventually revert to a pay-as-you-go status. Therefore, for the current benefit structure to be sustainable, the contribution levels should be increased further.

All of the tables referenced in the following discussion appear in Section C of this report.

Plan Provisions

Senate Bill 1459 passed by the 83rd Legislature of the State of Texas (SB1459) made the following changes to the plan provisions of JRS-2.

1. Reduces interest paid on retirement account balances to 2% prospectively starting January 1, 2014.
2. Member contribution rates were increased to 6.60% of payroll for fiscal year 2014, 6.90% of payroll for fiscal year 2015, 7.20% of payroll for fiscal year 2016, and 7.50% of payroll for all subsequent fiscal years. The ultimate member contribution rate is subject to the State maintaining a contribution rate at least as much as the State contribution rate set for fiscal year 2015.

The current plan provisions are outlined in Appendix I of this report.

Actuarial Assumptions and Methods

The assumptions and methods applied in these actuarial valuations were adopted by the Board of Trustees on February 26, 2013 based on the experience investigation completed by Buck Consultants that covered the five-year period from September 1, 2006 through August 31, 2011. We did not perform an independent analysis of the actuarial assumptions. We believe the assumptions are internally consistent and are reasonable, based on the actual experience of JRS-2.

The actuarial valuation as of August 31, 2013 incorporates all known across-the-board pay increases budgeted by the State Legislature for the upcoming biennium. Specifically, judges are scheduled to receive approximately a 12% increase on September 1, 2013 and no increase on September 1, 2014.

The results of the actuarial valuations are dependent upon the actuarial assumptions used. Actual results can and almost certainly will differ, as actual experience deviates from the assumptions. Even seemingly minor changes in the assumptions can materially change the liabilities, calculated contribution rates and funding periods. A review of the impact of a different set of assumptions on the funded status of JRS-2 is outside the scope of this actuarial valuation.

The current actuarial assumptions are outlined in Appendix II of this report.

Funding Adequacy

The funding objective of JRS-2 is to fund the sum of the normal cost and the amount necessary to amortize any unfunded actuarial accrued liability over a period that does not exceed 30 years by one or more years. Contribution rates should be established which, over time, will remain level as a percent of payroll.

The member contribution rates are established by State statute and the State contribution rate is set by State statute and legislative appropriation. For the fiscal year beginning September 1, 2013, members accruing benefits contribute 6.60% of payroll and the State contributes 15.663% of payroll. Since some active JRS-2 members have elected to cease contributing to the plan as well as cease accruing additional benefits, the effective member contribution rate for the fiscal year beginning September 1, 2013 is 6.57% of payroll. The member contribution rate is scheduled to increase over time until it reaches an ultimate rate of 7.50% of payroll in the fiscal year 2017. This ultimate rate is subject to future legislative appropriations.

The August 31, 2013 actuarial valuation of JRS-2 incorporates the new assumptions adopted by the Board of Trustees on February 26, 2013 and the changes implemented by SB1459. The UAAL of JRS-2 increased from \$15 million as of August 31, 2012 to \$41 million as of August 31, 2013. Additionally, the funded ratio of JRS-2 decreased from 95.3% to 88.6% as of August 31, 2013.

The valuation shows that the total normal cost for funding purposes is 20.96% of payroll. The total contribution rate is 22.233% of payroll for the current fiscal year, and potentially increasing to 23.163% of payroll for future fiscal years. The total contribution rate for the current fiscal year exceeds the normal cost by 1.273% of payroll, but it is not sufficient to amortize the UAAL over a finite period of time. As a result, the UAAL is expected to grow indefinitely and the funding objective is not currently being realized.

Section 840.106 of the Texas Government Code limits the modifications to JRS-2 that would, essentially, increase benefits or lower contributions to the trust unless the current level of benefits and contributions are considered actuarially sound. Section 840.106 defines actuarially sound as a retirement system that is receiving a total contribution rate sufficient to cover the normal cost,

administrative expenses, and amortize the UAAL over a period of 31 years, or less. Based on the actuarial valuation as of August 31, 2013, the actuarially sound contribution rate for JRS-2 is 24.08% of payroll.

System Assets

This report contains several tables that summarize key information with respect to the JRS-2 assets.

The total market value of assets increased from \$296 million to \$318 million as of August 31, 2013. Table 5 reconciles the changes in the fund during the year. Total contributions increased slightly from \$8.3 million to \$8.8 million, due to an increase in active member payroll and an increase in the total contribution rate from 11.97% to 12.48%. Contributions for fiscal year 2014 are anticipated to increase significantly due to a total contributed rate of 22.233% as of August 31, 2013 and legislated pay increases that went into effect September 1, 2013.

Table 6 shows the development of the actuarial value of assets. Rather than use the JRS-2 market value of assets, the valuation reflects a smoothed asset value. This actuarial value is calculated by immediately reflecting 20% of the difference between the expected actuarial value and the current market value. The actuarial value is slightly less than the market value.

The approximate investment return for the fiscal year ending August 31, 2013 was 10.1% when measured on market value and 8.0% when measured on actuarial value. Table 7 shows a history of return rates for the past ten years. The JRS-2 ten-year average market return, net of investment expenses, is 7.1%.

Table 8 provides a history of the contributions paid into JRS-2 and the administrative expenses and benefit payments that have been paid out of JRS-2. This table shows that JRS-2 received contributions in excess of administrative expenses and benefit payments paid, of \$5.9 million (or 2.6% of assets) in fiscal year 2010. However, in fiscal year 2013, administrative expenses and benefits paid exceeded contributions received by \$6.3 million (or 2.0% of assets). The change from excess contributions to a deficit is primarily attributable to the lower State contribution rate over the past biennium. The scheduled increases in contribution rates over the next few years should mitigate the growth in this deficit; however, ERS should continue to monitor this deficit as it could impact the future liquidity needs of JRS-2.

Data

The valuation was based upon information as of August 31, 2013, furnished by ERS staff, concerning system benefits, financial transactions, plan provisions and active members, terminated members, retirees and beneficiaries. We checked for internal and year-to-year consistency, but did not otherwise audit the data. We are not responsible for the accuracy or completeness of the information provided by ERS staff.

All of the actuarial valuation results stated as of August 31, 2012 are based on the prior actuary's actuarial valuation report. Any values not explicitly stated in the prior actuarial valuation report are denoted with an "N/A".

The tables in Appendix III show key census statistics for the various groups included in the valuation.

SECTION C

TABLES

Development of Employer Cost

	August 31, 2013	August 31, 2012
1. Payroll		
a. Reported Payroll (August Payroll of Active Members)	\$ 69,515,000	\$ 68,777,500
b. Valuation Payroll (Expected Covered Payroll for Following Plan Year)	77,853,500	68,777,500
2. Present Value of Future Pay	\$ 402,311,076	N/A
3. Total Normal Cost Rate		
a. Gross normal cost rate	20.46%	19.75%
b. Administrative expenses	0.50%	0.50%
c. Total (Item 3a + Item 3b)	20.96%	20.25%
4. Actuarial Accrued Liability for Active Members		
a. Present value of future benefits for active members	\$ 282,873,786	\$ 250,871,304
b. Less: present value of future normal costs (Item 3a * Item 2)	(82,312,846)	(68,956,191)
c. Actuarial accrued liability	\$ 200,560,940	\$ 181,915,113
5. Total Actuarial Accrued Liability for:		
a. Retirees and beneficiaries	\$ 147,052,378	\$ 122,570,887
b. Inactive members	11,445,317	10,713,152
c. Active members (Item 4c)	200,560,940	181,915,113
d. Total	\$ 359,058,635	\$ 315,199,152
6. Actuarial Value of Assets	\$ 318,025,658	\$ 300,433,111
7. Unfunded Actuarial Accrued Liability (UAAL) (Item 5d - Item 6)	\$ 41,032,977	\$ 14,766,041
8. Amortization of UAAL Over 31 Years as a Level Percentage of Payroll	3.12%	1.27%
9. Contribution Rate Needed to Fund Normal Cost Plus Amortize the UAAL Over 31 Years (Item 3c + Item 8)	24.08%	21.52%
10. Allocation of Contribution Rate		
a. Employer rate	15.663%	6.50%
b. Member rate	6.57%	5.98%
c. Total contribution rate	22.233%	12.48%
d. Total normal cost rate	20.96%	20.25%
e. Available contribution rate to amortize UAAL	1.273%	(7.77)%
f. Total contribution rate	22.233%	12.48%
11. Funding period based on statutory contribution rates (years)	Never	Never

Prior year information from prior actuary. "N/A" indicates information not disclosed in prior reports.

Actuarial Present Value of Future Benefits

	August 31, 2013	August 31, 2012
1. Active Members		
a. Service Retirement	\$ 256,747,782	\$ 224,317,798
b. Disability Benefits	3,680,953	5,426,095
c. Death Before Retirement	10,390,638	10,145,529
d. Termination	12,054,413	10,981,882
e. Total	<u>\$ 282,873,786</u>	<u>\$ 250,871,304</u>
2. Inactive Members	\$ 11,445,317	\$ 10,713,152
3. Annuitants	\$ 147,052,378	\$ 122,570,887
4. Total Actuarial Present Value of Future Benefits	\$ 441,371,481	\$ 384,155,343

Analysis of Normal Cost

	<u>August 31, 2013</u>	<u>August 31, 2012</u>
1. Gross Normal Cost Rate		
a. Service Retirement	16.96%	N/A
b. Disability Benefits	0.56%	N/A
c. Death Before Retirement	0.80%	N/A
d. Termination	<u>2.14%</u>	<u>N/A</u>
e. Total	20.46%	19.75%
2. Administrative Expenses	<u>0.50%</u>	<u>0.50%</u>
3. Total Normal Cost	20.96%	20.25%
4. Less: Member Rate	<u>6.57%</u>	<u>5.98%</u>
5. Employer Normal Cost Rate	14.39%	14.27%

Historical Summary of Active Member Data

Valuation as of August 31,	Active Members		Covered Payroll		Average Salary		Average Age	Average Service
	Number	Percent Increase	Annual Payroll (\$)	Percent Increase	\$ Amount	Percent Increase		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
2008	518	0.6%	66,110,000	2.3%	127,625	1.7%	54.9	9.4
2009	533	2.9%	67,967,500	2.8%	127,519	-0.1%	55.2	9.0
2010	539	1.1%	68,755,000	1.2%	127,560	0.0%	55.8	9.5
2011	546	1.3%	69,655,000	1.3%	127,573	0.0%	55.7	9.2
2012	541	-0.9%	68,777,500	-1.3%	127,130	-0.3%	56.5	10.0
2013	545	0.7%	69,515,000	1.1%	127,550	0.3%	56.5	9.6

Reconciliation of Plan Net Assets

	Year Ending	
	August 31, 2013	August 31, 2012
	(1)	(2)
1. Market value of assets at beginning of year	\$ 295,912,873	\$ 259,623,603
2. Revenue for the year		
a. Contributions for the year		
i. State (including membership fees)	\$ 4,549,182	\$ 4,150,342
ii. Member (including penalty interest)	4,267,748	4,170,485
iii. Total	\$ 8,816,930	\$ 8,320,827
b. Net investment income	\$ 28,752,516	\$ 41,180,676
c. Total revenue	\$ 37,569,446	\$ 49,501,503
3. Disbursements for the year		
a. Benefit payments and refunds	14,869,352	\$ 12,981,930
b. Administrative expenses	228,225	230,303
c. Total expenditures	15,097,577	13,212,233
4. Increase in net assets (Item 2c - Item 3c)	\$ 22,471,869	\$ 36,289,270
5. Market value of assets at end of year (Item 1 + Item 4)	\$ 318,384,742	\$ 295,912,873

Development of Actuarial Value of Assets

	Year Ending August 31, 2013
1. Actuarial value of assets at beginning of year	\$ 300,433,111
2. Net new investments	
a. Contributions for the year (Table 5)	\$ 8,816,930
b. Disbursements for the year (Table 5)	(15,097,577)
c. Subtotal	(6,280,647)
3. Assumed investment return rate	8.00%
4. Expected return	\$ 23,783,423
5. Expected actuarial value of assets at end of year (Item 1 + Item 2c + Item 4)	\$ 317,935,887
6. Market value of assets at end of year	\$ 318,384,742
7. Excess earnings/(shortfall) (Item 6 - Item 5)	\$ 448,855
8. Excess earnings/(shortfall) recognized (20% x Item 7)	\$ 89,771
9. Actuarial value of assets (Item 5 + Item 8)	\$ 318,025,658
10. Estimated rate of return	8.0%
11. Actuarial value as percentage of market value	99.9%

History of Investment Return Rates

Year Ending August 31 of	Market*	Actuarial
(1)	(2)	(3)
2003	9.2%	5.2%
2004	11.7%	6.2%
2005	12.7%	7.5%
2006	8.8%	7.7%
2007	13.9%	8.8%
2008	-4.6%	5.9%
2009	-6.6%	3.5%
2010	6.7%	4.1%
2011	12.6%	5.7%
2012	8.2%	7.6%
2013	10.1%	8.0%
Average Returns		
Last Five Years:	6.0%	5.8%
Last Ten Years:	7.1%	6.5%

* Market Value Rates of Return provided by the ERS Master Trust Custodian.

History of Cash Flow

Year Ending August 31, (1)	Contributions (2)	Distributions and Expenditures			External Cash Flow for the Year (7)	Market Value of Assets (8)	External Cash Flow as Percent of Market Value (9)
		Benefit Payments and Refunds (3)	Administrative Expenses (5)	Total (6)			
2007	15,034	(5,805)	(395)	(6,200)	8,834	217,665	4.1%
2008	15,102	(6,717)	(244)	(6,962)	8,141	215,041	3.8%
2009	15,579	(8,229)	(240)	(8,469)	7,110	205,730	3.5%
2010	15,632	(9,407)	(277)	(9,684)	5,948	225,265	2.6%
2011	16,224	(11,768)	(286)	(12,054)	4,170	259,624	1.6%
2012	8,321	(12,982)	(230)	(13,212)	(4,891)	295,913	-1.7%
2013	8,817	(14,869)	(228)	(15,098)	(6,281)	318,385	-2.0%

Dollar amounts in thousands

Column (7) = Column (2) + Column (6).

Total Experience Gain or Loss

Item (1)	Year Ending August 31, 2013 (2)	Year Ending August 31, 2012 (3)
A. Calculation of total actuarial gain or loss		
1. Unfunded actuarial accrued liability (UAAL), previous year	\$ 14,766,041	\$ 16,227,423
2. Normal cost for the year (excluding administrative expenses)	\$ 13,583,557	N/A
3. Actual Administrative expenses	\$ 228,225	N/A
4. Contributions for the year (excluding service purchases)	\$ (8,731,276)	N/A
5. Interest at 8%		
a. On UAAL	\$ 1,181,283	N/A
b. On normal cost	552,471	N/A
c. On contributions	(349,251)	N/A
d. Total	\$ 1,384,503	N/A
6. Assumption Change (Gains)/Losses	\$ 3,587,600	\$ (5,626,820)
7. Legislative changes		
a. Across-the-board pay increases budgeted for upcoming biennium by the State Legislature	\$ 9,238,756	\$ 0
b. Senate Bill 1459	(827,729)	0
c. Total	\$ 8,411,027	\$ 0
8. Expected UAAL (Sum of Items 1 through 7)	\$ 33,229,677	\$ 17,713,109
9. Actual UAAL	\$ 41,032,977	\$ 14,766,041
10. Total (gain)/loss for the year (Item 9 - Item 8)	\$ 7,803,300	\$ (2,947,068)
B. Source of gains and losses		
11. Asset (gain)/loss for the year	\$ (89,771)	\$ 1,130,060
12. Pay Increases (Less)/Greater than Expected	5,996,126	0
13. Non-Retired Demographic (Gains)/Losses	1,548,252	(2,873,658)
14. Post-Retirement Mortality (Gains)/Losses	(633,737)	(716,430)
15. Other Demographic (Gains)/Losses	982,430	(487,040)
16. Total (Sum of Items 11 through 15)	\$ 7,803,300	\$ (2,947,068)

Solvency Test

Actuarial Accrued Liability and Percent of Active Member Payroll for:

August 31,	Accumulated Member Contributions Including Interest		Retirees and Beneficiaries Currently Receiving Benefits		Employer Financed Portion of Vested and Nonvested Benefits		Actuarial Value of Assets	Portion of Accrued Liabilities Covered by Assets		
	(1)	% of Payroll	(2)	% of Payroll	(3)	% of Payroll		(1)	(2)	(3)
2007	\$ 44,615	69%	\$ 62,008	96%	\$ 114,261	177%	\$ 211,933	100%	100%	92%
2008	50,408	76%	63,792	96%	124,898	189%	232,891	100%	100%	95%
2009	51,733	76%	85,845	126%	117,991	174%	248,279	100%	100%	94%
2010	57,347	83%	92,253	134%	132,160	192%	264,515	100%	100%	87%
2011	57,769	83%	120,798	173%	121,596	175%	283,935	100%	100%	87%
2012	63,678	93%	122,571	178%	128,950	187%	300,433	100%	100%	89%
2013	64,435	93%	147,052	212%	147,571	212%	318,026	100%	100%	72%

Note : Dollar amounts in thousands

APPENDICES

SUMMARY OF PLAN PROVISIONS FOR JUDICIAL RETIREMENT SYSTEM, PLAN 2

Membership

Membership is mandatory at the first day of employment for eligible persons who, after August 31, 1985, became a judge, justice, or commissioner of:

- (1) The Supreme Court;
- (2) The Court of Criminal Appeals;
- (3) Courts of Appeals;
- (4) District Courts; or
- (5) Specified commissioners to a court.

Member Contributions

Judicial officers contribute a percentage of their compensation based on the following schedule:

- a. Fiscal year 2014: 6.60%
- b. Fiscal year 2015: 6.90%
- c. Fiscal year 2016: 7.20%
- d. Fiscal year 2017 and beyond: 7.50%

Beginning in fiscal year 2018, the 7.50% will be reduced one-tenth of one percent for each one-tenth of one percent that the State contribution rate for the fiscal year to which the service relates is less than the State contribution rate established for the 2015 fiscal year.

Contributions cease after member has accrued 20 years of service credit or has served 12 years on an appellate court and attained the Rule of 70. However, these members may elect to make contributions for each subsequent year of service credit and receive the additional benefit accruals.

Member contributions accumulate interest at 5.00% per year through December 31, 2013 and 2.00% interest per year, thereafter.

State of Texas Contributions

State contributions are set biennially by the legislature. For fiscal years 2014 and 2015, the State will contribute 15.663% of payroll.

Final Compensation

The State salary being paid at the time the member retires to a judge of a court of the same classification as the last court to which the member was elected or appointed.

Creditable Service

The types of service creditable in JRS-2 are membership service, military service and equivalent membership service. Equivalent membership service includes: previously cancelled service, service not previously established, waiting period service, and additional purchased service.

Standard Service Retirement Annuity

1. Eligibility:
 - a. Age 65 and ten years of service if currently holding judicial office; or
 - b. Age 65 and twelve years of service; or
 - c. Twenty years of service, regardless of age; or
 - d. Member's age plus service credited in the retirement system equals 70 (Rule of 70), if the member has served at least twelve years on an appellate court.
2. Benefits: Monthly annuity payable for life, equal to 50% of Final Compensation at retirement, increased by 10% of Final Compensation at retirement if the member has not been out of judicial office for one year or the member has served as a visiting judge within one year of benefit commencement.

Members who elect to continue their contributions after 20 years of service credit, or after serving 12 years on an appellate court and attaining the Rule of 70, can earn up to a maximum total benefit of 90% of Final Compensation. For each such year, the service retirement annuity would be increased by 2.3% of the Final Compensation at retirement.

3. Normal Form of Payment: Payable for the life of the member with any remaining member account balance paid at time of death. Survivorship options and partial lump-sum option are available on an actuarially equivalent basis.

Early Commencement of the Standard Service Retirement Annuity

1. Eligibility:
 - a. Age 60 and ten years of service if currently holding judicial office; or
 - b. Age 60 and twelve years of service.
2. Benefits: Standard Service Retirement Annuity with the 50% replaced by the following percentages based on age at retirement:

<u>Attained Age</u>	<u>Percent of Final Compensation</u>
60	40.0%
61	41.7
62	43.6
63	45.6
64	47.7

3. Normal Form of Payment: Payable for the life of the member with any remaining member account balance paid at time of death. Survivorship options and partial lump-sum option are available on an actuarially equivalent basis.

Standard Non-Occupational Disability Annuity

1. Eligibility: Seven years of service and Chief Justice of the Supreme Court and the medical board must certify that the member is mentally or physically incapacitated for the further performance of regular judicial duties.
2. Benefits: Unreduced Standard Service Retirement Annuity.
3. Normal Form of Payment: Payable for the life of the member with any remaining member account balance paid at time of death. Survivorship options and partial lump-sum option are available on an actuarially equivalent basis.

Death Benefit Plan (DBP) Annuity

1. Eligibility: Death of an active member with 10 years of service.
2. Benefits: Benefits are calculated as if the member had elected an optional form of payment, received a Standard Service Retirement Annuity, and died immediately thereafter. If the member dies before becoming eligible for a Standard Service Retirement Annuity, the benefit is reduced for early retirement from age 65.

Pre-Retirement Death Refund Alternative

A refund of accumulated contributions is payable in cases of pre-retirement death where the member did not meet the eligibility requirements for a Death Benefit Plan Annuity, or the eligible beneficiary chooses to receive a refund of the member account balance in lieu of an annuity. This amount is increased by 5% of the member's account balance at death, times full years of service credit at death, to a maximum of 100%.

Deferred Service Retirement Annuity

1. Eligibility: Twelve or more years of service and Member Contributions have not been refunded.
2. Benefits: The Standard Service Retirement Annuity earned as of the date of termination; provided that the annuity may be increased under the provisions of the proportionate retirement program if the member becomes a contributing member of another system that participates in the program.
3. Payments may commence at: Age 65; or a reduced amount as early as age 60.
4. Normal Form of Payment: Payable for the life of the member with any remaining member account balance paid at time of death. Survivorship options and partial lump-sum option are available on an actuarially equivalent basis.

Refund of Accumulated Contributions

A refund of accumulated contributions is payable in cases where a terminated member did not meet the eligibility requirements for an annuity, or a terminated member chooses to receive a refund of his or her account balance in lieu of an annuity.

Limit on Plan Modifications

According to Section 840.106 of the Texas Government Code – a rate of member or State contributions to or a rate of interest required for the establishment of credit in the retirement system may not be reduced or eliminated, a type of service may not be made creditable in the retirement system, a limit on the maximum permissible amount of a type of creditable service may not be removed or raised, a new monetary benefit payable by the retirement system may not be established, and the determination of the amount of a monetary benefit from the system may not be increased, if, as a result of the particular action, the time, as determined by an actuarial valuation, required to amortize the UAAL of the retirement system would be increased to a period that exceeds 30 years by one or more years.

SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS

The assumptions and methods applied in this actuarial valuation were adopted by the Board of Trustees on February 26, 2013 based on the experience investigation that covered the five-year period from September 1, 2006 through August 31, 2011.

I. Valuation Date

The valuation date is August 31 of each plan year. This is the date as of which the actuarial present value of future benefits and the actuarial value of assets are determined.

II. Actuarial Cost Method

Because the employer contribution rate is set by statute, the actuarial valuation is used to determine the adequacy of the current State contribution rate and describe the current financial condition of JRS-2.

The actuarial valuation uses the Entry Age Normal actuarial cost method. Under this method, the first step is to determine the contribution rate (level as a percentage of pay) required to provide the benefits to each member, or the normal cost rate. The normal cost rate consists of two pieces: (i) the member's contribution rate, and (ii) the remaining portion of the normal cost rate which is the employer's normal cost rate.

The Unfunded Actuarial Accrued Liability (UAAL) is the liability for future benefits which is in excess of (i) the actuarial value of assets, and (ii) the present value of future normal costs. The employer contribution provided in excess of the employer normal cost is applied to amortize the UAAL.

The funding period is calculated as the number of years required to fully amortize the UAAL, assuming that: (a) future market earnings, net of investment-related expenses, will equal 8.00% per year, (b) there will be no liability gains/losses or changes in assumptions, (c) the number of active members will remain unchanged, (d) active members who leave employment will be replaced by new entrants each year, and (e) State contributions will remain the same percentage of payroll as the current fiscal year.

The Entry Age actuarial cost method is an "immediate gain" method (i.e., experience gains and losses are separately identified as part of the UAAL). However, they are amortized over the same period applied to all other components of the UAAL.

III. Actuarial Value of Assets

The actuarial value of assets is determined as the expected value of plan assets as of the valuation date plus 20% of the difference between the market-related value and the expected value. The expected value equals the actuarial value of plan assets as of the prior valuation date, plus contributions, less benefit payments and administrative expenses, all accumulated at the assumed rate of interest to the current valuation date.

IV. Actuarial Assumptions

Investment Return: 8.00% per year, net of investment-related expenses (composed of an assumed 3.50% inflation rate and a 4.50% real rate of return)

Administrative Expenses: 0.50% of valuation payroll per year

Salary Increases: 3.50% per year; total liabilities for this valuation reflect all known legislative salary increases for the biennium.

Payroll Growth: 3.50% per year, compounded annually (for projecting valuation payroll).

Post-Retirement Benefit Increases: None

Age and Service Assumptions and Methods:

Rounding of ages:

Current and projected ages rounded to the nearest year are used for all purposes – determining eligibility for benefits, present value factors, early retirement reductions, option factors, salary increase rates, and decrements.

Benefit Service:

Current Benefit Service in years and months as of the valuation date was provided by ERS. This service plus Future Earned Service, and Eligibility Service at Retirement were used to project benefit amounts.

Future Earned Service:

Active members were assumed to earn one additional year of service credit in each future year they are assumed to make contributions.

Service for Decrements:

The method of calculating JRS Decrement Service on the valuation date is shown below. Decrement service is assumed to increase by one year for each future year employed.

- Valuation Age: Age rounded to the nearest year on valuation date
- JRS Service: Years and months of all JRS service on the valuation date
- Date 1: (Valuation Date) minus (JRS Service)
- JRS Decrement Service: (Valuation Age) minus (age rounded to nearest year on Date 1)
- JRS Funding Entry Age (age at hire for the entry age normal cost method): (Valuation Age) minus (JRS Decrement Service)

Decrement Timing: All decrements – mortality, service retirement, disability retirement, and termination of employment for reasons other than death or retirement – are assumed to occur at the beginning of the valuation year.

Mortality Decrements:

Active Members, Service Retirees, Beneficiaries, and Inactive Members

1994 Group Annuity Mortality with no setback for males and set forward two years for females. Generational mortality improvements in accordance with Scale AA are projected from the year 2000.

Disability Retirees

RP-2000 Disabled Retiree Mortality set forward six years for males and setback one year for females.

Service Retirement Decrements: Graded tables based on JRS-1 and JRS-2 experience.

JRS Decrement Service is used to determine when the rates apply:

- Age 65 with ten years of service, if member currently holding judicial office
- Age 65 with twelve years of service
- Twenty years of service
- Age plus service equal to or greater than 70, if member has at least twelve years of service on an appellate court

Annual Service Retirement Rates per 100 Participants	
Age	
50 - 69	20
70 - 74	25
75+	100

Members are assumed to retire when they are projected to have accrued the maximum benefit of 90% of applicable salary, regardless of whether the member elects to continue contributing.

Disability Retirement Decrements: Graded Tables Based on ERS Experience

JRS Decrement Service is used to determine when the rates apply:

- The rates do not apply before someone is eligible for the benefit.
- Service greater than zero is required for occupational disability retirement.
- Seven years of service is required for non-occupational disability retirement.
- Non-occupational disability rates are assumed to be zero once the member has attained age 60.

Sample rates for eligible members:

Annual Disability Rates per 100 Participants		
Age	Males	Females
30	0.0366	0.0180
35	0.0867	0.0589
40	0.0999	0.1195
45	0.1369	0.1940
50	0.1979	0.2762
55	0.3302	0.4651

99% of the disability rates stated above are assumed to be attributable to non-occupational disabilities and 1% are assumed to be attributable to occupational disabilities. No occupational disabilities are assumed for judges.

Termination Decrements for Reasons Other Than Death or Retirement: Based on JRS-1 and JRS-2 Experience

Four per 100 participants for members not eligible for service retirement.

Rates of Withdrawal of Employee Contributions

Members eligible to receive a deferred annuity are assumed not to withdraw their contributions. Members not eligible to receive a deferred annuity are assumed to withdraw their contributions.

Percentage of Members Electing Various Benefit Options:

Sex/ Benefit	Standard Life Annuity	Option 1	Option 4
Male Member			
Disability	50%	40%	10%
Service Retirement	100%	0%	0%
Death Benefit Plan	0%	75%	25%
Female Member			
Disability	75%	20%	5%
Service Retirement	100%	0%	0%
Death Benefit Plan	0%	50%	50%

Beneficiary Characteristics: Male member is assumed to be three years older than female beneficiary; and female member is assumed to be the same age as male beneficiary.

Census Data and Assets

- The valuation was based on members of JRS-2 as of August 31, 2013 and does not take into account future members.
- All census data was supplied by ERS and was subject to reasonable consistency checks.
- There were data elements that were modified for some members as part of the valuation in order to make the data complete. However, the number of missing data items was immaterial.
- Asset data was supplied by ERS.

Other Actuarial Valuation Procedures

- No provision was made in this actuarial valuation for the limitations of Internal Revenue Code Section 415 or 401(a)(17).
- Valuation payroll (earnings applied to the current valuation year) is the expected payroll for the fiscal year following the valuation date. It is based on reported payroll determined from August member contributions increased to reflect the across-the-board salary increases appropriated by the State legislature, effective on or after September 1, and projected according to the actuarial assumptions for the upcoming fiscal year.
- No liability was included for benefits which are funded by special State appropriations.

DETAILED SUMMARIES OF MEMBERSHIP DATA

<u>TABLE NUMBER</u>	<u>PAGE</u>	
A	31	SUMMARY OF MEMBERSHIP DATA
B	32	ACTIVE MEMBERS: DISTRIBUTION BY AGE AND SERVICE
C	33	RETIRED AND BENEFICIARY MEMBERS: DISTRIBUTION BY AGE AND CATEGORY

TABLE A
SUMMARY OF MEMBERSHIP DATA

Active Members

Item	Male	Female	Total
Number of Members	363	182	545
Average Annual Salaries	\$ 127,156	\$ 128,338	\$ 127,550
Average Age	57.4	54.6	56.5
Average Service	9.6	9.8	9.6

Inactive Members

Item	Number	Annual Annuities	Average Annuities	Average Age
Participants with Deferred Benefits	19	\$ 1,237,440	65,128	58.1
Service Retirees and Beneficiaries	253	\$ 15,178,008	59,992	67.9
Disability Retirees	1	\$ 75,000	75,000	57.8
Total	273	\$ 16,490,448	\$ 60,405	67.2

Non-vested Members

Item	Number	Account Balances	Average Account Balance	Average Age
Non-vested Participants	133	\$ 4,552,828	\$ 34,232	58.8

TABLE B
ACTIVE MEMBERS
DISTRIBUTION BY AGE AND SERVICE

Age	Years of Service									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
Under 25										
25 - 29										
30 - 34	1 \$ 125,000									1 \$ 125,000
35 - 39	14 \$ 125,000									14 \$ 125,000
40 - 44	29 \$ 127,586	9 \$ 126,389	3 \$ 129,167							41 \$ 127,439
45 - 49	39 \$ 125,962	24 \$ 126,042	11 \$ 128,409	2 \$ 131,250						76 \$ 126,480
50 - 54	32 \$ 127,344	23 \$ 127,174	24 \$ 128,229	13 \$ 125,000						92 \$ 127,201
55 - 59	30 \$ 125,833	23 \$ 126,630	28 \$ 129,643	23 \$ 131,087	5 \$ 127,500	3 \$ 125,000				112 \$ 128,080
60 - 64	31 \$ 126,613	20 \$ 125,625	31 \$ 128,871	17 \$ 129,706	18 \$ 125,000	6 \$ 129,583				123 \$ 127,358
Over 64	14 \$ 125,893	19 \$ 125,658	24 \$ 130,208	14 \$ 130,357	10 \$ 132,750	5 \$ 132,500				86 \$ 128,953
Total	190 \$ 126,447	118 \$ 126,271	121 \$ 129,153	69 \$ 129,457	33 \$ 127,727	14 \$ 129,643				545 \$ 127,550

TABLE C
RETIRED AND BENEFICIARY MEMBERSHIP DATA
DISTRIBUTION BY AGE AND CATEGORY

Age Last Birthday	Number	Annual Benefit	Average Annual Benefit
Service Retirees			
Under 60	31	1,816,392	58,593
60 - 64	58	3,538,752	61,013
65 - 69	65	3,878,712	59,672
70 - 74	52	3,272,520	62,933
75 - 79	12	631,080	52,590
Over 79	16	950,580	59,411
Total	234	14,088,036	60,205
Beneficiaries			
Under 60	3	160,932	53,644
60 - 64	2	128,928	64,464
65 - 69	4	228,240	57,060
70 - 74	3	180,624	60,208
75 - 79	1	57,000	57,000
Over 79	6	334,248	55,708
Total	19	1,089,972	57,367
Disabled Retirees			
Under 60	1	75,000	75,000
60 - 64	0	0	0
65 - 69	0	0	0
70 - 74	0	0	0
75 - 79	0	0	0
Over 79	0	0	0
Total	1	75,000	75,000
Grand Total	254	15,253,008	60,051

GLOSSARY

Actuarial Accrued Liability (AAL): That portion, as determined by a particular Actuarial Cost Method, of the Actuarial Present Value of Future Plan Benefits which is not provided for by future Normal Costs. It is equal to the Actuarial Present Value of Future Plan Benefits minus the actuarial present value of future Normal Costs.

Actuarial Assumptions: Assumptions as to future experience under the Fund. These include assumptions about the occurrence of future events affecting costs or liabilities, such as:

- mortality, withdrawal, disablement, and retirement;
- future increases in salary;
- future rates of investment earnings and future investment and administrative expenses;
- characteristics of members not specified in the data, such as marital status;
- characteristics of future members;
- future elections made by members; and
- other relevant items.

Actuarial Cost Method or Funding Method: A procedure for allocating the Actuarial Present Value of Future Benefits to various time periods; a method used to determine the Normal Cost and the Actuarial Accrued Liability. These items are used to determine the ARC.

Actuarial Gain or Actuarial Loss: A measure of the difference between actual experience and that expected based upon a set of Actuarial Assumptions, during the period between two Actuarial Valuation dates. Through the actuarial assumptions, rates of decrements, rates of salary increases, and rates of fund earnings have been forecasted. To the extent that actual experience differs from that assumed, Actuarial Accrued Liabilities emerge which may be the same as forecasted, or may be larger or smaller than projected. Actuarial gains are due to favorable experience, e.g., the Fund's assets earn more than projected, salaries do not increase as fast as assumed, members retire later than assumed, etc. Favorable experience means actual results produce actuarial liabilities not as large as projected by the actuarial assumptions. On the other hand, actuarial losses are the result of unfavorable experience, i.e., actual results that produce actuarial liabilities which are larger than projected. Actuarial gains will shorten the time required for funding of the actuarial balance sheet deficiency while actuarial losses will lengthen the funding period.

Actuarially Equivalent: Of equal actuarial present value, determined as of a given date and based on a given set of Actuarial Assumptions.

Actuarial Present Value (APV): The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of Actuarial Assumptions. For purposes of this standard, each such amount or series of amounts is:

- a. adjusted for the probable financial effect of certain intervening events (such as changes in compensation levels, marital status, etc.),
- b. multiplied by the probability of the occurrence of an event (such as survival, death, disability, termination of employment, etc.) on which the payment is conditioned, and
- c. discounted according to an assumed rate (or rates) of return to reflect the time value of money.

Actuarial Present Value of Future Plan Benefits: The Actuarial Present Value of those benefit amounts which are expected to be paid at various future times under a particular set of Actuarial Assumptions, taking into account such items as the effect of advancement in age and past and anticipated future compensation and service credits. The Actuarial Present Value of Future Plan Benefits includes the liabilities for active members, retired members, beneficiaries receiving benefits, and inactive, nonretired members either entitled to a refund or a future retirement benefit. Expressed another way, it is the value that would have to be invested on the valuation date so that the amount invested plus investment earnings would be provide sufficient assets to pay all projected benefits and expenses when due.

Actuarial Valuation: The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets, and related Actuarial Present Values for a plan. An Actuarial valuation for a governmental retirement system typically also includes calculations of items needed for compliance with GASB 25, such as the funded ratio and the ARC.

Actuarial Value of Assets or Valuation Assets: The value of the Fund's assets as of a given date, used by the actuary for valuation purposes. This may be the market or fair value of plan assets, but commonly actuaries use a smoothed value in order to reduce the year-to-year volatility of calculated results, such as the funded ratio and the ARC.

Actuarially Determined: Values which have been determined utilizing the principles of actuarial science. An actuarially determined value is derived by application of the appropriate actuarial assumptions to specified values determined by provisions of the law.

Amortization Method: A method for determining the Amortization Payment. The most common methods used are level dollar and level percentage of payroll. Under the Level Dollar method, the Amortization Payment is one of a stream of payments, all equal, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the Amortization payment is one of a stream of increasing payments, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the stream of payments increases at the assumed rate at which total covered payroll of all active members will increase.

Amortization Payment: That portion of the pension plan contribution or ARC which is designed to pay interest on and to amortize the Unfunded Actuarial Accrued Liability.

Annual Required Contribution (ARC): The employer's periodic required contributions, expressed as a dollar amount or a percentage of covered plan compensation, determined under GASB 25. The ARC consists of the Employer Normal Cost and the Amortization Payment

Closed Amortization Period: A specific number of years that is counted down by one each year and therefore declines to zero with the passage of time. For example if the amortization period is initially set at 30 years, it is 29 years at the end of one year, 28 years at the end of two years, etc. See Funding Period and Open Amortization Period.

Decrements: Those causes/events due to which a member's status (active-inactive-retiree-beneficiary) changes, that is: death, retirement, disability, or termination.

Defined Benefit Plan: A retirement plan that is not a Defined Contribution Plan. Typically a defined benefit plan is one in which benefits are defined by a formula applied to the member's compensation and/or years of service.

Defined Contribution Plan: A retirement plan, such as a 401(k) plan, a 403(b) plan, or a 457 plan, in which the contributions to the plan are assigned to an account for each member, and the plan's earnings are allocated to each account, and each member's benefits are a direct function of the account balance.

Employer Normal Cost: The portion of the Normal Cost to be paid by the employers. This is equal to the Normal Cost less expected member contributions.

Experience Study: A periodic review and analysis of the actual experience of the Fund which may lead to a revision of one or more actuarial assumptions. Actual rates of decrement and salary increases are compared to the actuarially assumed values and modified as deemed appropriate by the Actuary.

Funded Ratio: The ratio of the actuarial value of assets (AVA) to the actuarial accrued liability (AAL). Plans sometimes calculate a market funded ratio, using the market value of assets (MVA), rather than the AVA, although GASB 25 reporting requires the use of the AVA.

Funding Period or Amortization Period: The term "Funding Period" is used in two ways. In the first sense, it is the period used in calculating the Amortization Payment as a component of the ARC. This funding period is chosen by the Board of Trustees. In the second sense, it is a calculated item: the number of years in the future that will theoretically be required to amortize (i.e., pay off or eliminate) the Unfunded Actuarial Accrued Liability, based on the statutory employer contribution rate, and assuming no future actuarial gains or losses.

GASB: Governmental Accounting Standards Board.

GASB 25 and **GASB 27**: Governmental Accounting Standards Board Statements No. 25 and No. 27. These are the governmental accounting standards that set the accounting rules for public retirement systems and the employers that sponsor or contribute to them. Statement No. 27 sets the accounting rules for the employers that sponsor or contribute to public retirement systems, while Statement No. 25 sets the rules for the systems themselves.

Normal Cost: That portion of the Actuarial Present Value of pension plan benefits and expenses which is allocated to a valuation year by the Actuarial Cost Method. Any payment in respect of an Unfunded Actuarial Accrued Liability is not part of Normal Cost (see Amortization Payment). For pension plan benefits which are provided in part by employee contributions, Normal Cost refers to the total of employee contributions and employer Normal Cost unless otherwise specifically stated. Under the entry age normal cost method, the Normal Cost is intended to be the level cost (when expressed as a percentage of pay) needed to fund the benefits of a member from hire until ultimate termination, death, disability or retirement.

Open Amortization Period: An open amortization period is one which is used to determine the Amortization Payment but which does not change over time. In other words, if the initial period is set as 30 years, the same 30-year period is used in determining the Amortization Period each year. In theory, if an Open Amortization Period is used to amortize the Unfunded Actuarial Accrued Liability, the UAAL will never completely disappear, but will become smaller each year, either as a dollar amount or in relation to covered payroll.

Unfunded Actuarial Accrued Liability: The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. This value may be negative in which case it may be expressed as a negative Unfunded Actuarial Accrued Liability, also called the Funding Surplus.

Valuation Date or Actuarial Valuation Date: The date as of which the value of assets is determined and as of which the Actuarial Present Value of Future Plan Benefits is determined. The expected benefits to be paid in the future are discounted to this date.